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Rebuttal Report of Brent Finley, Ph.D., DABT and Allison Killius, MEM

JULY 21, 2025

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Expert Report of Brent Finley, Ph.D., DABT and Allison Killius, MEM

JULY 21, 2025

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3. Transcript of Preliminary Injunction Hearing (dated May 22, 2025)
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2 Responses to Plaintiff Experts

Below we respond to some claims and opinions made by Dr. Jennifer Schlezinger.

2.1 HFPO-DA is not more toxic than PFOA

In Paragraph 14 of Dr. Schlezinger's declaration, she states that "there is ample scientific evidence that HFPO-DA is toxic and growing evidence that it is more toxic than perfluorooctanoic acid (PFOA)." She continues to say, "studies show that toxic changes in cells and organs may be more readily initiated by HFPO-DA than by PFOA or perfluorooctane sulfonic acid (the PFAS currently considered to be the most toxic)."

To support these statements, she cites to two references: Schelizinger et al. (2020) and Murase et al. (2025).

Our Response: Dr. Schlezinger's opinion directly contradicts that of the U.S. EPA. Specifically, in 2021, the U.S. EPA published their final human health toxicity assessment for HFPO-DA, which is an in-depth peer reviewed analysis of all available information (toxicological, epidemiological, in vitro, etc.) known about the toxicity of HFPO-DA. Using the available data, they derived a chronic oral reference dose (RfD) of 0.000003 (3×10^{-6}) mg/kg bw-day. In 2024, the U.S. EPA published a similar document for PFOA and derived a chronic oral RfD of 0.00000003 (3×10^{-8}) mg/kg bw-day. Hence, for non-cancer effects in humans, the U.S. EPA has concluded that PFOA is 1,000x more potent than HFPO-DA. The large difference in the toxicity profiles is understood to be due in part to the fact that PFOA bioaccumulates in animals and humans, while HFPO-DA does not. Dr. Schlezinger fails to acknowledge the U.S. EPA's findings, and the evidence is clear that HFPO-DA is *not* more toxic than PFOA and that Dr. Schlezinger's claim is demonstrably false.

Additionally, the U.S. EPA determined that PFOA was *Likely to be Carcinogenic to Humans* yet the agency also determined that HFPO-DA has only *Suggestive Evidence of Carcinogenic Potential.* Again, Dr. Schlezinger failed to discuss or even cite to the U.S. EPA's conclusions.

In the paper cited, Schlezinger et al. (2020), there is no information to support the claim that HFPO-DA is more toxic than PFOA. It is an experiment in which humanized mice and PPARa-null mice were fed an "Americanized diet" and exposed to PFOA in the drinking water for six weeks and observed for dyslipidemia. HFPO-DA is not mentioned at all in the paper.

In the Murase et al. (2025) paper, pregnant mice were exposed to PFOA and HFPO-DA during gestation and then their male offspring were assessed for health effects. The author argues that the mice experienced more adverse health outcomes at a low dose of HFPO-DA than at a low dose of PFOA. Many of these health effects focus on the PPAR-alpha pathway, which is highly sensitive in rodents but not a relevant health outcome in humans. The analysis of changes in genetic expression indicates differences between HFPO-DA and PFOA, but changes in genetic expression can occur with no changes in phenotypic expression and no clinical or histological outcomes other than birth weight and organ weight are reported in this paper, raising a question of whether this gene expression analysis has any relevance to actual health outcomes.

2.2 The running annual average of the finished drinking water at Lubeck is below the MCL and therefore does not pose a health risk

2.2.1 The MCL is a chronic exposure limit NOT an acute exposure limit

In Paragraph 17 of her declaration, Dr. Schlezinger describes the MCL as being "the maximum amount of a toxicant that can be consumed daily over a lifetime without an increase in risk of adverse health effect" and reiterates her point by further explaining that "a person needs to drink water with less than 10 ppt HFPO-DA every day for a lifetime for there to be no increase in risk of adverse health effect."

Our Response: The U.S. EPA states that a person can consume water containing HFPO-DA up to 10 ppt daily, for an entire lifetime, without appreciable risk. Dr. Schlezinger interprets this to mean that consumption of water containing >10 ppt HFPO-DA, even for a single day, poses a health risk. This is incorrect and contradicts U.S. EPA's definition of the MCL. The MCL is not an acute exposure limit, it is a long term (70 year) chronic exposure limit. At no point does U.S. EPA state that any exceedance of 10 ppt HFPO-DA, even for a day, poses a health risk. It would be more accurate to state: "in order for HFPO-DA in drinking water to pose a health risk, a person would need to drink water with HFPO-DA levels higher than 10 ppt HFPO-DA every day for a lifetime."

The U.S. EPA clearly established in their MCL guidelines what constitutes an MCL violation, how it should be addressed, and whether it poses a health risk. There are multiple tiers of response depending on the magnitude of the violation and the threat of harm. The

U.S. EPA has authority to issue a Tier 1 'Do Not Drink' advisory in cases where violations of the MCL pose "imminent and substantial endangerment" (OSHA, 2000; U.S. EPA, 2018). Public water systems must notify their customers of an MCL violation, but this is not the same as a 'Do Not Drink' advisory. These advisories are only warranted when there is a credible threat of *immediate harm*. A Tier 2 advisory requires notification of consumers within 30 days if the level of a contaminant exceeds standards "but doesn't pose an immediate risk to human health" (U.S. EPA, 2025). In the case of HFPO-DA, a Tier 2 advisory is only triggered when the running annual average is in exceedance of the MCL. The minor exceedances observed at Lubeck do not even meet the threshold for a Tier 2 advisory as the running annual average at Lubeck never exceeded the MCL.

Clearly, the U.S. EPA does not consider the HFPO-DA samples >10 ppt observed at Lubeck to pose an immediate risk to human health as they are not in violation of the MCL.

2.2.2 Compliance with the MCL is determined by calculating a running average of the previous 12-months of samples

In Paragraph 16 of her declaration, Dr. Schlezinger suggests that the annual averaging requirements for compliance with the MCL must be calculated using only quarterly sampling results, and not all available data:

> "Note that when Ms. Boston calculated the average HFPO-DA concentrations to analyze if they were below the MCL, she did so by averaging all the values in a given year, rather than using the quarterly value average approach used by the EPA to determine compliance with the regulation."

Our Response: Dr. Schlezinger is incorrect. The U.S. EPA states that a rolling annual average of quarterly samples should be used to determine compliance with the MCL, but that if additional samples are collected, they should be included in the calculation as well. Specifically, in their FAQs for Drinking Water Primary Agencies, the U.S. EPA states "[i]f a system is required to take more than one compliance sample during each quarter at a particular location, the system *must* average all samples taken at that location during that quarter" (emphasis added) (U.S. EPA, 2024a). Chemours routinely collects monthly samples at Lubeck to ensure that the GAC system is properly functioning in complying with the legally enforceable Order on Consent between U.S. EPA and DuPont that became the responsibility of Chemours when it was spun from DuPont in 2015. It is entirely appropriate, and in fact required, for every sample collected to be included in the running annual average calculation.

2.2.3 Monthly samples from the two GAC lag beds should be averaged to best represent the water distributed to consumers

On Paragraph 17 of her declaration, Dr. Schlezinger presents a figure of the HFPO-DA reported in monthly samples collected from the two lag beds of the GAC filtration system at Lubeck. She presents this data to support her statement that there were "significant and sustained contamination events over 2023 and 2024."

Our Response: The Lubeck water treatment facility utilizes two separate GAC filters with a lead bed and lag bed each. After treatment through the GAC filter, the water is homogenized in the clear well and disinfected prior to distribution (https://www.lubeckpsd.com/Water-Process) **(Error! Reference source not found.)**.

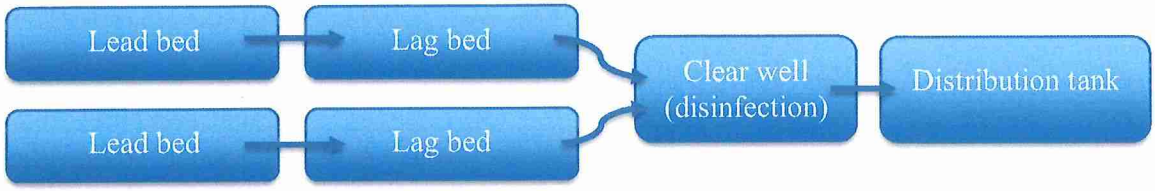


Figure 1. Lubeck GAC system

The highest HFPO-DA level reported in a lag bed, 40 ppt, in the second quarter sampling of 2024, was due to a valve malfunction and not increased emissions to the Ohio River. On April 25, 2024, the GAC system valve tree was investigated, and it was determined that raw water leaked through an opening in the valve (AECOM, 2024). The valve was replaced on April 29, 2024, and a GAC changeout occurred on June 4, 2024.

More importantly, it is clear that the treated Lubeck water was in compliance with the HFPO-DA MCL throughout the time period referenced by Dr. Schlezinger. The correct methodology for assessing compliance with the HFPO-DA MCL at Lubeck is to average the sampling HFPO-DA results from the two lag beds; this yields an accurate representation of the HFPO-DA concentrations in the final drinking water that is distributed to the consumers. Figure 2 summarizes the rolling average of the HFPO-DA levels in Lubeck drinking water, calculated by averaging the bed concentrations across the previous consecutive 12-month period at each sampling date. As can be seen in Figure 1, the rolling average HFPO-DA water concentration was in compliance with the MCL of 10 ppt in 2023 and 2024. Hence, despite Dr. Schlezinger's claim that there were "contamination events" at Lubeck in 2023 and 2024, the undeniable fact is that the Lubeck water was in compliance with the HFPO-DA MCL throughout that time frame and that water was completely safe for human consumption.

Dr. Schlezinger uses the term "contamination event" to describe any HFPO-DA measurement higher than 10 ppt. This term is an example of non-scientific, "for litigation" language that does not appear in any authoritative document that is relevant to the HFPO-DA MCL. Dr. Schlezinger' belief that the Lubeck water was not safe to drink due to the presence of HFPO-DA directly contradicts the position of the U.S. EPA.

Even with the temporary valve malfunction, the annual rolling average for HFPO-DA across the lag bed water samples was still consistently under the MCL of 10 ppt.

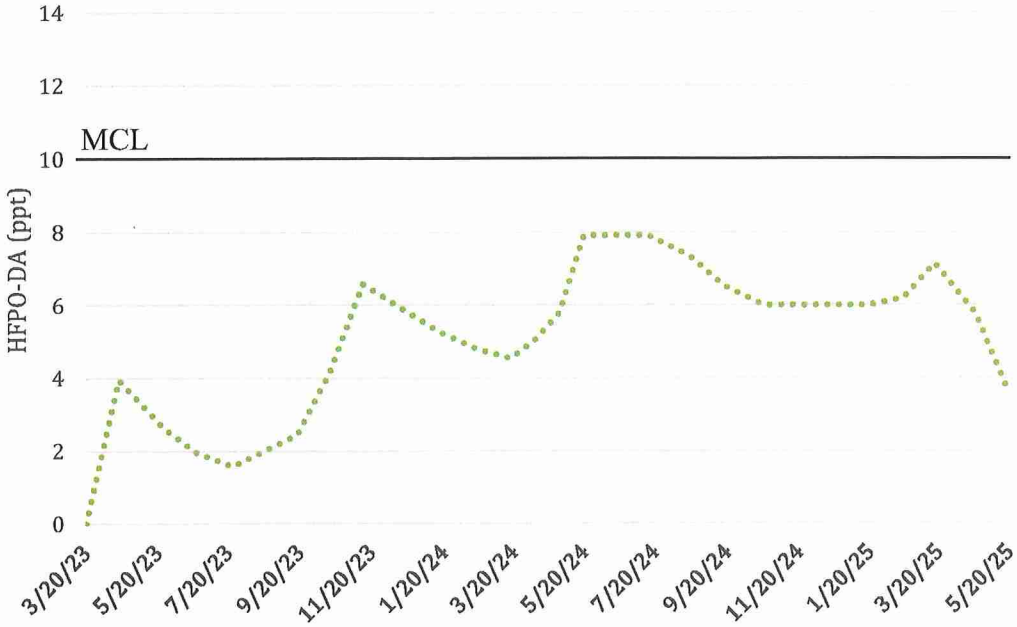


Figure 2. Running annual average HFPO-DA of both GAC lag beds

2.2.4 The animal studies cited by Dr. Schlezinger are not applicable to this case

In Paragraph 17 of her declaration, Dr. Schlezinger states that "[i]t is a false equivalent to say that no harm has occurred because the yearly average exposure remained below the MCL." She then cites to Dai et al. (2024) and states "[f]or instance, a 14-week exposure to a low level of HFPO-DA in drinking water in a rodent study showed that the development and function of the placenta was disrupted." In her testimony, she stated that the concentrations of HFPO-DA observed at Lubeck "would be sufficient…for there to be a perturbation of the development of the placenta" or result in lower birth weights (Preliminary Injunction Hearing: p. 201).

Our Response: Dai et al. (2024) is indeed a rodent study in which pregnant rats were exposed to HFPO-DA in the drinking water for up to 100 days (or roughly 14 weeks). However, they were not exposed to "low levels" of HFPO-DA. There were four dose groups included in the 14-week study: 0 (control), 0.14, 1.4, and 14 µg/L (or 140, 1400, and 14,000 ppt). The lowest dose in this study was 14x higher than the MCL. Further, at no point have the HFPO-DA levels in the Lubeck water been above 10 ppt for a 14-week timeframe. There is no evidence available that demonstrates that consuming water with the concentrations observed at Lubeck poses a health risk to the developing fetus.

As explained previously, the U.S. EPA determined that there is no health risk, including to sensitive sub populations such as the developing fetus, from consuming drinking water

containing less than an average of 10 ppt for an entire lifetime, let alone for a period as short as 14 weeks.

2.2.5 HFPO-DA does not bioaccumulate

In justifying her opinion that a single exposure to HFPO-DA greater than 10 ppt poses a health risk, Dr. Schlezinger offers the following explanation in her testimony: "So a single day of exposure to HFPO-DA. HFPO-DA very easily enters the body. About 100 percent of HFPO-DA that is consumed will actually enter the body. One of the problems with PFAS is that they do not leave the body as efficiently as they enter the body. So even that single day of consumption of HFPO-DA, the chemical will not completely leave her body for 14 days" (Preliminary Injunction Hearing: p. 235, l. 21 - p. 236, l. 2).

Our Response: This statement is entirely incorrect. The biological half-life of HFPO-DA in rats and mice is approximately 6-24 hours, and in humans is 1-2 days. It is well understood that HFPO-DA does not bioaccumulate in animals or humans. It is often not detectable even in the blood of individuals known to be consuming tap water that contains measurable levels of HFPO-DA. For example, Kotlarz et al. (2020) measured PFAS in serum from residents (n=344) located in Wilmington, NC who were served by public drinking water with measurable levels of HFPO-DA. HFPO-DA was not detected in a single serum sample. Kotlarz et al. (2024) collected serum samples from residents in Fayetteville, NC that rely on private wells for drinking water, split into two groups based on having measured water levels of HFPO-DA <10 ppt or >10 ppt. HFPO-DA was not detected in a single serum sample, including in the group consuming water with >10 ppt HFPO-DA (method reporting limit (MRL) of 0.4-2.5 ng/mL). Therefore, even consuming water containing HFPO-DA above the MCL does not result in detectable levels of HFPO-DA in the serum.

2.2.6 There is no evidence to indicate that previous PFOA exposures increase the risk of current exposures to trace levels of HFPO-DA in Lubeck drinking water

In Paragraph 20 of her declaration, Dr. Schlezinger states that the community served by Lubeck has previously been extensively exposed to PFOA; to support this opinion she cites to Lubeck serum data from approximately 20 years ago that allegedly demonstrates that the community serum PFOA levels were 17x higher than the contemporaneous U.S. average. She further states that, as a result, the Lubeck community is at increased risk from current HFPO-DA exposures.

Our Response: We disagree with this opinion for several reasons: 1) Dr. Schlezinger does not cite to any evidence that a 17-fold elevation in serum PFOA levels (relative to the national average) is associated with increased incidence of any disease, 2) given that the trace levels of HFPO-DA in Lubeck drinking water do not pose a health risk, and that there is no evidence that current serum PFOA levels in Lubeck pose a health risk, it is complete speculation to conclude that the additive effects of these two exposures are sufficient to pose a health risk and Dr. Schlezinger does not cite to any evidence to support her conclusion of "additivity," 3) there is no evidence as to whether or what degree current

serum PFOA levels in Lubeck residents are elevated above the national average, and 4) PFOA and HFPO-DA are two entirely different congeners with very different characteristics (e.g., PFOA is bioaccumulative and HFPO-DA is not) and there is no evidence that their potential toxicities are additive.

2.3 Exposure to HFPO-DA via routes other than the drinking water do not pose a health risk to the Lubeck community

Dr. Schlezinger prepared a supplemental expert opinion regarding whether or not the plaintiff Ms. Robinson, or any member of the Lubeck community, is likely to experience harm if they no longer drink or cook with the water provided by the LPSD. She concluded that Ms. Robinson has had ongoing exposure to HFPO-DA even though she stopped drinking the tap water in 2018, due to her incidental exposure via watering her vegetable and herb garden, using the water to brush her teeth and shower, and using the water to wash her clothing.

Our Response: While some level of exposure may be possible via these incidental pathways, due to the trivial magnitude of these exposures, they do not result in a health risk. As explained earlier, the HFPO-DA MCL is protective for a lifetime of exposure assuming a person ingests 3 L of tap water daily. The Lubeck water supply has not exceeded the MCL of a running annual average of 10 ppt at any point. It has already been established that these pathways are not significant contributors to total HFPO-DA exposure. For example, in an assessment of dermal exposure to PFAS, the U.S. EPA concluded that, "[s]tudies have shown that only a small amount of PFAS can get into [the] body through skin. Therefore, showering, bathing, and washing dishes in water containing PFAS are unlikely to significantly increase risk" (USEPA, 2023). The North Carolina Department of Health and Human Services agreed with the U.S. EPA's assessment, stating that, "[r]esearch is limited regarding [PFAS] exposures through skin, but based on current research, only a small amount of PFAS can get into [the] body through skin, so very little PFAS exposure occurs during swimming, bathing, or showering in water contaminated with PFAS" (NCDHHS, 2023).

2.3.1 Evidence shows that plants uptake only a fraction of the HFPO-DA found in soil

Our Response: Ms. Robinson reportedly uses Lubeck water to water her vegetable and herb garden. Dr. Schlezinger suggests that this exposure increases her aggregate risk from exposure to HFPO-DA. However, Xu et al. (2021) demonstrated that the bioaccumulation factor (BAF) from soil to plant tissue is only 0.21 for HFPO-DA. Assuming there is 10 ppt in the water that Ms. Robinson uses on her vegetable garden, and that all of the HFPO-DA remains in the soil available for uptake (which is highly unlikely considering HFPO-DA is water soluble and very mobile through soils), only 21% of that total HFPO-DA present in the water would migrate into the herbs and vegetables. Since the direct consumption of the Lubeck drinking water does not pose a risk, then obviously the dose from consuming vegetables and herbs with that same water does not pose a risk. It is also unreasonable to

assume that Ms. Robinson relies solely on her vegetable garden and does not also consume produce purchased elsewhere.

In summary, any HFPO-DA exposures that Ms. Robinson might experience from eating, teeth brushing, showering, and cleaning would be significantly less than the health-based threshold (the RfD) that has been established for HFPO-DA.

2.4 Dr. Schlezinger has a fundamental misunderstanding of the health risk assessment process

Dr. Schlezinger reaches conclusions about health risk yet acknowledges that she is not a risk assessor and has never conducted a human health risk assessment (Preliminary Injunction Hearing: p. 223). She makes broad statements that consumption of drinking Lubeck water containing HFPO-DA increases the risk of health effects, yet she does not conduct a risk assessment to support this conclusion. Dr. Schlezinger makes incorrect comments and reaches unfounded conclusions that are consistent with her lack of health risk assessment expertise.

For example, as noted earlier, she states that "[a] single day of drinking water over 10 parts per trillion HFPO-DA will increase [the] risk of adverse human health effect" (p. 233, l. 23-25). This belief directly conflicts with the health risk assessment used by U.S. EPA to derive the HFPO-DA MCL.

Our Response: It is a fundamental tenet of toxicology and the health risk assessment process that for all substances, even highly potent compounds such as arsenic and nerve gases, there is some dose below which there is no increased risk of an adverse effect. In fact, Dr. Schlezinger even acknowledged that a "safe level" of HFPO-DA exposure exists (Preliminary Injunction Hearing: p. 224, l. 20). However, the fact that Dr. Schlezinger believes consumption of one glass of wine results in a significantly increased risk of disease simply demonstrates her lack of understanding of these fundamental risk assessment principles (Preliminary Injunction Hearing: p. 207). This also applies to her belief that a single exposure to HFPO-DA in drinking water above 10 ppt significantly increases the risk of an adverse health effect.

2.5 Exposure to PFAS does not cause fatty liver or liver cancer in humans

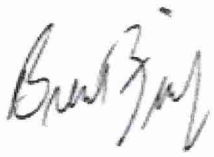
Dr. Schlezinger testified that "[t]here is a single liver-based adverse health effect of PFAS, which has been deemed nonhuman relevant and that is a hepatocellular carcinoma" (Preliminary Injunction Hearing: p. 203, l. 17-19). She additionally testified that "multiple studies of people and the association of PFAS body burdens and fatty liver…are demonstrating an association between PFAS exposures…and fatty liver" (Preliminary Injunction Hearing: p. 203, l. 23 – p. 204, l. 2).

Our Response: The C8 Health Project conducted extensive epidemiological analyses of the population in the Ohio River Valley to determine which (if any) diseases were causally associated with PFAS exposure. Specific to liver disease, the C8 science panel evaluated whether all liver disease (including hepatitis) and a narrower group of liver disease (enlarged liver, fatty liver disease, and cirrhosis) was associated with PFOA exposure. The panel came to the conclusion based on the epidemiological data that there is **not** a probable link between exposure to PFOA and liver disease (C8 Science Panel, 2012).

3 Closing

I submit these opinions to a reasonable degree of scientific certainty and am prepared to support them in both deposition and/or courtroom testimony. I may supplement this report if additional information becomes available or I am asked to address other issues.

Respectfully,



July 21, 2025

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Date

July 21, 2025

Allison Killius, MEM, MBA
Supervising Health Scientist

Date

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